## PRELIMINARY REMARKS

Claims 6 to 8 and 11 to 23 as set forth in Appendix II of this paper are now pending in this case. Claims 1 to 5, 9 and 10 have been canceled, Claims 6 to 8 have been amended, and Claims 11 to 23 have been added as indicated in Appendix I of this paper.

Accordingly, Claims 6 to 8 have been rewritten in independent form, introducing the features originally incorporated by reference to a previous claim based on the corresponding definitions found in Claim 1 as allowed in the parent application. Additionally, new Claims 11 to 23 have been added to further bring out the subsidiary embodiments of the subject matter defined in Claims 6 to 8 which correspond to the embodiments of Claims 2 to 5 of the parent application. Subject matter which overlaps with the claims allowed in the parent case has been canceled. No new matter has been added.

The specification has been amended to include a proper reference to the parent application.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11.0345. Please credit any excess fees to such deposit account.

Respectfully submitted,
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Encl.: THE SUBSTITUTE SECTION(S) OF THE SPECIFICATION (Appendix I)
THE CHANGE(S) IN THE SPECIFICATION (Appendix II)
THE LISTING OF CLAIMS (Appendix III)
THE AMENDED CLAIMS (Appendix IV)

HBK/BAS

## APPENDIX I:

THE SUBSTITUTE SECTION(S) OF THE SPECIFICATION (clean version):

On page 1:

- After the title and prior to the first paragraph, ie. at indicated line 3, insert the following new paragraph:

  This is a Divisional application of Application Serial No. 09/879,283, filed on June 12, 2001 (*allowed*), which claims the benefit under 35 U.S.C. 119(e) of U.S. provisional applications 60/211,262, filed June 13, 2000, and 60/231,632, filed September 11, 2000.

# APPENDIX II:

THE CHANGE(S) IN THE SPECIFICATION (version with markings):

On page 1:

- After the title and prior to the first paragraph, ie. at indicated line 3, the following new paragraph has been added:

  This is a Divisional application of Application Serial No. 09/879,283, filed on June 12, 2001 (*allowed*), which claims the benefit under 35 U.S.C. 119(e) of U.S. provisional applications 60/211,262, filed June 13, 2000, and 60/231,632, filed September 11, 2000.

## APPENDIX III:

THE LISTING OF CLAIMS (version with markings, showing the changes made):

1. (*canceled*)

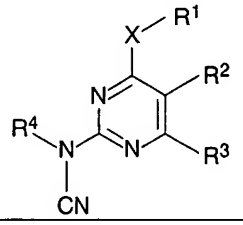
2. (*canceled*)

3. (*canceled*)

4. (*canceled*)

5. (*canceled*)

6. (*currently amended*) A process for the preparation of [~~pyrimidines~~] a pyrimidine of formula I [~~according to claim 1~~]




(I)

in which

$R^1$ represents $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-haloalkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_4$-$C_8$-alkadienyl, $C_1$-$C_{10}$-alkoxy, $C_3$-$C_8$-cycloalkyl, phenyl, tri-$C_1$-$C_6$-alkyl-silyl, formyl or $C_1$-$C_{10}$-alkoxycarbonyl, wherein $R^1$ groups are unsubstituted or substituted by one to three groups $R^a$;

$R^a$ is halogen, nitro, cyano, hydroxy, or

is $C_1$-$C_{10}$-alkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkenyl, $C_1$-$C_{10}$-haloalkyl, $C_3$-$C_6$-halocycloalkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-haloalkoxy, $C_1$-$C_{10}$-alkoxycarbonyl, tri-$C_1$-$C_4$-alkyl-silyl, phenyl, halo- or dihalophenyl;

$R^2$ represents phenyl or $C_3$-$C_6$-cycloalkyl, which are unsubstituted or substituted by one to three groups $R^a$;

$R^3$ represents hydrogen, halogen, or

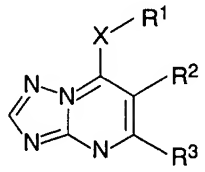
is $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-alkylthio, $C_1$-$C_{10}$-alkylamino or di-$C_1$-$C_{10}$-alkylamino, which are unsubstituted or substituted by one to three groups $R^a$;

$R^4$ represents $C_1$-$C_{10}$-alkyl, $C_2$-$C_6$-alkenyl or $C_2$-$C_6$-alkynyl, which are unsubstituted or substituted by one to three groups $R^a$; and

X represents O, S, $NR^5$ or a single bond, wherein $R^5$ represents hydrogen, $C_1$-$C_{10}$-alkyl or $C_1$-$C_{10}$-haloalkyl; or

$R^1$ and $R^5$ together with the interjacent nitrogen atom form a heterocyclic ring selected from the group consisting of pyrrolidine, piperidine, tetrahydropyridine and azepane, which ring is optionally substituted by one or more $C_1$-$C_{10}$-alkyl groups,

[~~wherein $R^4$ is optionally substituted alkyl, alkenyl or alkynyl by~~] which process comprises treating [~~compounds~~] a compound of [~~the~~] formula II



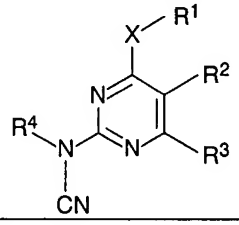
II

[~~in which $R^1$ through $R^3$ and X are as defined in formula I,~~] with a base and an alkylation agent of formula III

$$R^4\text{-}Y \qquad \text{III}$$

in which [~~$R^4$ is $C_1$-$C_6$-alkyl, $C_1$-$C_6$-alkenyl or $C_1$-$C_6$-alkynyl, which are unsubstituted or substituted by one to three groups $R^a$, and~~] Y represents [~~lacuna~~] a halogen atom.

7. (*currently amended*) A process for the preparation of [~~pyrimidines~~] a pyrimidine of formula I [~~according to claim 1~~]



(I)

in which

$R^1$ represents $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-haloalkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_4$-$C_8$-alkadienyl, $C_1$-$C_{10}$-alkoxy, $C_3$-$C_8$-cycloalkyl, phenyl, tri-$C_1$-$C_6$-alkyl-silyl, formyl or $C_1$-$C_{10}$-alkoxycarbonyl, wherein $R^1$ groups are unsubstituted or substituted by one to three groups $R^a$;

$R^a$ is halogen, nitro, cyano, hydroxy, or

is $C_1$-$C_{10}$-alkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkenyl, $C_1$-$C_{10}$-haloalkyl, $C_3$-$C_6$-halocycloalkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-haloalkoxy, $C_1$-$C_{10}$-alkoxycarbonyl, tri-$C_1$-$C_4$-alkyl-silyl, phenyl, halo- or dihalophenyl;

$R^2$ represents phenyl or $C_3$-$C_6$-cycloalkyl, which are unsubstituted or substituted by one to three groups $R^a$;

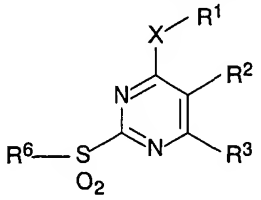
$R^3$ represents hydrogen, halogen, or
is $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-alkylthio, $C_1$-$C_{10}$-alkylamino or di-$C_1$-$C_{10}$-alkylamino, which are unsubstituted or substituted by one to three groups $R^a$;

$R^4$ represents $C_1$-$C_{10}$-alkyl, $C_2$-$C_6$-alkenyl or $C_2$-$C_6$-alkynyl, which are unsubstituted or substituted by one to three groups $R^a$; and

X represents O, S, $NR^5$ or a single bond, wherein $R^5$ represents hydrogen, $C_1$-$C_{10}$-alkyl or $C_1$-$C_{10}$-haloalkyl; or

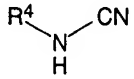
$R^1$ and $R^5$ together with the interjacent nitrogen atom form a heterocyclic ring selected from the group consisting of pyrrolidine, piperidine, tetrahydropyridine and azepane, which ring is optionally substituted by one or more $C_1$-$C_{10}$-alkyl groups,

[~~wherein $R^4$ $C_1$-$C_6$-alkyl, $C_1$-$C_6$-alkenyl or $C_1$-$C_6$-alkynyl, which are unsubstituted or substituted by one to three groups $R^a$ by~~] which process comprises reacting [~~sulfones~~] a sulfone of formula VI



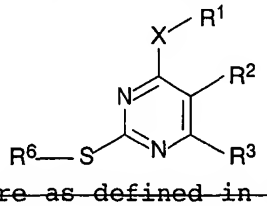
VI

in which [~~$R^1$ through $R^3$ and X are as defined in formula I and~~] $R^6$ is $C_1$-$C_6$-alkyl or $C_1$-$C_6$-haloalkyl; with an alkylated [~~cyanamides~~] cyanamide of formula VII



VII

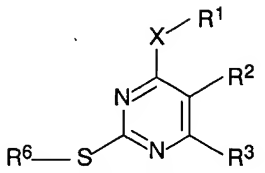
[~~in which $R^4$ is $C_1$-$C_6$-alkyl, $C_1$-$C_6$-alkenyl or $C_1$-$C_6$-alkynyl which are unsubstituted or substituted by one to three groups $R^a$,~~] wherein [~~sulfones~~] the sulfone of formula VI [~~are~~] is obtained by reacting a 2-thiopyrimidine [~~derivatives~~] compound of formula VIII



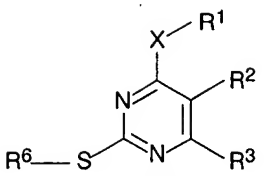
VIII

[~~in which the variables are as defined in formula VI,~~] with an oxidizing [~~agents~~] agent.

8. (*currently amended*) [~~Compounds~~] A compound of [~~formulae~~] formula VI [~~and~~] or VIII [~~as defined in claim 7.~~]



(VI)



(VIII)

wherein

$R^1$ represents $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-haloalkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_4$-$C_8$-alkadienyl, $C_1$-$C_{10}$-alkoxy, $C_3$-$C_8$-cycloalkyl, phenyl, or

5- or 6-membered heteroaryl or 5- or 6-membered heterocyclyl consisting of carbon ring members and heteroatoms as ring members, and containing as heteroatoms one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom, or

tri-$C_1$-$C_6$-alkyl-silyl, formyl or $C_1$-$C_{10}$-alkoxycarbonyl;

wherein $R^1$ groups are unsubstituted or substituted by one to three groups $R^a$

$R^a$ halogen, nitro, cyano, hydroxy or

$C_1$-$C_{10}$-alkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkenyl, $C_1$-$C_{10}$-haloalkyl, $C_3$-$C_6$-halocycloalkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-haloalkoxy, $C_1$-$C_{10}$-alkoxycarbonyl, tri-$C_1$-$C_4$-alkyl-silyl, phenyl, halo- or dihalophenyl or 5- or 6-membered heteroaryl consisting of carbon ring members and heteroatoms as ring members, and containing as heteroatoms one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom;

$R^2$ represents phenyl which is unsubstituted or substituted by two or three groups $R^a$;

$R^3$ represents chlorine;

X represents $NR^5$, wherein $R^5$ represents hydrogen or $C_1$-$C_{10}$-alkyl or $C_1$-$C_{10}$-haloalkyl; or

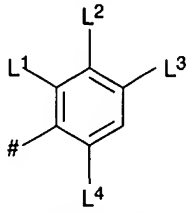
$R^1$ and $R^5$ together with the interjacent nitrogen atom form a heterocyclic ring selected from the group consisting of pyrrolidine, piperidine, tetrahydropyridine and azepane, which ring is optionally substituted by one or more $C_1$-$C_{10}$-alkyl groups; and

$R^6$ represents $C_1$-$C_6$-alkyl or $C_1$-$C_6$-haloalkyl.

9. (*canceled*)

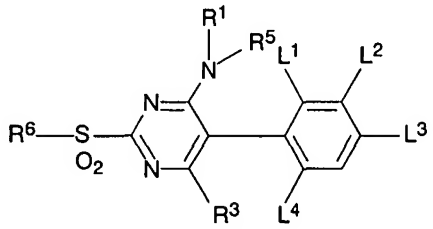
10. (*canceled*)

11. (*new*) The compound of formula VI or VIII defined in claim 8, in which $R^2$ represents a phenyl group of formula



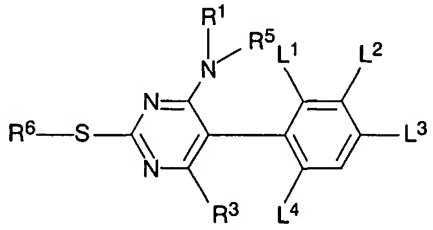

wherein $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

12. (*new*) The compound of formula VI defined in claim 8 which is represented by formula




in which $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

13. (*new*) The compound of formula VIII defined in claim 8 which is represented by formula

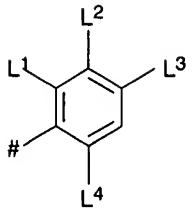



in which $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

14. (*new*) The compound of formula VI or VIII defined in claim 8 in which $R^3$ represents chlorine.

15. (*new*) The compound of formula VI or VIII defined in claim 8 in which $R^4$ represents $C_1$-$C_6$-alkyl or benzyl.

16. (*new*) The process of claim 7, in which $R^2$ of formulae I, VI and VIII represents a phenyl group of formula



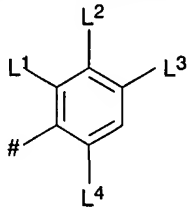

wherein $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

17. (*new*) The process of claim 7, in which X of formulae I, VI and VIII represents $NR^5$.

18. (*new*) The process of claim 7, in which $R^3$ of formulae I, VI and VIII represents chlorine.

19. (*new*) The process of claim 7, in which $R^4$ of formulae I and VII represents $C_1$-$C_6$-alkyl or benzyl.

20. (*new*) The process of claim 6, in which $R^2$ of formulae I and II represents a phenyl group of formula




wherein $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

21. (*new*) The process of claim 6, in which X of formulae I and II represents $NR^5$.

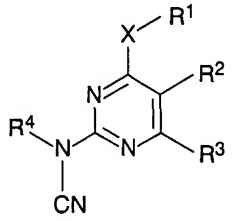
22. (*new*) The process of claim 6, in which $R^3$ of formulae I and II represents chlorine.

23. (*new*) The process of claim 6, in which $R^4$ of formulae I and III represents $C_1$-$C_6$-alkyl or benzyl.

## APPENDIX IV:

THE AMENDED CLAIMS (clean version of *all* claims):

6. (*currently amended*) A process for the preparation of a pyrimidine of formula I



(I)

in which

$R^1$ represents $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-haloalkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_4$-$C_8$-alkadienyl, $C_1$-$C_{10}$-alkoxy, $C_3$-$C_8$-cycloalkyl, phenyl, tri-$C_1$-$C_6$-alkyl-silyl, formyl or $C_1$-$C_{10}$-alkoxy-carbonyl, wherein $R^1$ groups are unsubstituted or substituted by one to three groups $R^a$;

$R^a$ is halogen, nitro, cyano, hydroxy, or

is $C_1$-$C_{10}$-alkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkenyl, $C_1$-$C_{10}$-haloalkyl, $C_3$-$C_6$-halocycloalkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-haloalkoxy, $C_1$-$C_{10}$-alkoxycarbonyl, tri-$C_1$-$C_4$-alkyl-silyl, phenyl, halo- or dihalophenyl;

$R^2$ represents phenyl or $C_3$-$C_6$-cycloalkyl, which are unsubstituted or substituted by one to three groups $R^a$;

$R^3$ represents hydrogen, halogen, or

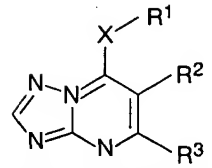
is $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-alkylthio, $C_1$-$C_{10}$-alkylamino or di-$C_1$-$C_{10}$-alkylamino, which are unsubstituted or substituted by one to three groups $R^a$;

$R^4$ represents $C_1$-$C_{10}$-alkyl, $C_2$-$C_6$-alkenyl or $C_2$-$C_6$-alkynyl, which are unsubstituted or substituted by one to three groups $R^a$; and

X represents O, S, $NR^5$ or a single bond, wherein $R^5$ represents hydrogen, $C_1$-$C_{10}$-alkyl or $C_1$-$C_{10}$-haloalkyl; or

$R^1$ and $R^5$ together with the interjacent nitrogen atom form a heterocyclic ring selected from the group consisting of pyrrolidine, piperidine, tetrahydropyridine and azepane, which ring is optionally substituted by one or more $C_1$-$C_{10}$-alkyl groups,

which process comprises treating a compound of formula II



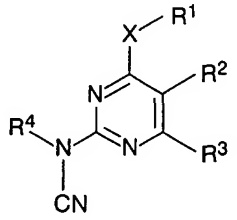
II

with a base and an alkylation agent of formula III

$$R^4\text{-}Y \qquad \text{III}$$

in which Y represents a halogen atom.

7. (*currently amended*) A process for the preparation of a pyrimidine of formula I



(I)

in which

$R^1$ represents $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-haloalkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_4$-$C_8$-alkadienyl, $C_1$-$C_{10}$-alkoxy, $C_3$-$C_8$-cycloalkyl, phenyl, tri-$C_1$-$C_6$-alkyl-silyl, formyl or $C_1$-$C_{10}$-alkoxycarbonyl, wherein $R^1$ groups are unsubstituted or substituted by one to three groups $R^a$;

$R^a$ is halogen, nitro, cyano, hydroxy, or

is $C_1$-$C_{10}$-alkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkenyl, $C_1$-$C_{10}$-haloalkyl, $C_3$-$C_6$-halocycloalkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-haloalkoxy, $C_1$-$C_{10}$-alkoxycarbonyl, tri-$C_1$-$C_4$-alkyl-silyl, phenyl, halo- or dihalophenyl;

$R^2$ represents phenyl or $C_3$-$C_6$-cycloalkyl, which are unsubstituted or substituted by one to three groups $R^a$;

$R^3$ represents hydrogen, halogen, or

is $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-alkylthio, $C_1$-$C_{10}$-alkylamino or di-$C_1$-$C_{10}$-alkylamino, which are unsubstituted or substituted by one to three groups $R^a$;

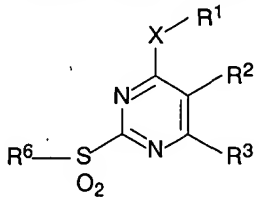
$R^4$ represents $C_1$-$C_{10}$-alkyl, $C_2$-$C_6$-alkenyl or $C_2$-$C_6$-alkynyl, which are unsubstituted or substituted by one to three groups $R^a$; and

X represents O, S, $NR^5$ or a single bond, wherein $R^5$ represents hydrogen, $C_1$-$C_{10}$-alkyl or $C_1$-$C_{10}$-haloalkyl; or

$R^1$ and $R^5$ together with the interjacent nitrogen atom form a heterocyclic ring selected from the group consisting of pyrroli-

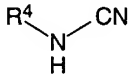
dine, piperidine, tetrahydropyridine and azepane, which ring is optionally substituted by one or more $C_1$-$C_{10}$-alkyl groups,

which process comprises reacting a sulfone of formula VI



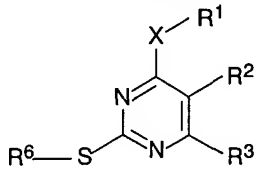
VI

in which $R^6$ is $C_1$-$C_6$-alkyl or $C_1$-$C_6$-haloalkyl; with an alkylated cyanamide of formula VII



VII

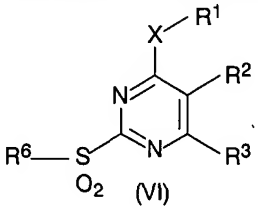
wherein the sulfone of formula VI is obtained by reacting a 2-thiopyrimidine compound of formula VIII



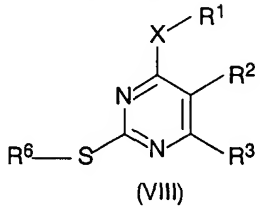
VIII

with an oxidizing agent.

8. (*currently amended*) A compound of formula VI or VIII



(VI)



(VIII)

wherein

$R^1$ represents $C_1$-$C_{10}$-alkyl, $C_1$-$C_{10}$-haloalkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_4$-$C_8$-alkadienyl, $C_1$-$C_{10}$-alkoxy, $C_3$-$C_8$-cycloalkyl, phenyl, or

5- or 6-membered heteroaryl or 5- or 6-membered heterocyclyl consisting of carbon ring members and heteroatoms as ring members, and containing as heteroatoms one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom, or

tri-$C_1$-$C_6$-alkyl-silyl, formyl or $C_1$-$C_{10}$-alkoxycarbonyl;

wherein $R^1$ groups are unsubstituted or substituted by one to three groups $R^a$

$R^a$ halogen, nitro, cyano, hydroxy or

$C_1$-$C_{10}$-alkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkenyl, $C_1$-$C_{10}$-haloalkyl, $C_3$-$C_6$-halocycloalkyl, $C_1$-$C_{10}$-alkoxy, $C_1$-$C_{10}$-haloalkoxy, $C_1$-$C_{10}$-alkoxycarbonyl, tri-$C_1$-$C_4$-alkylsilyl, phenyl, halo- or dihalophenyl or 5- or 6-membered heteroaryl consisting of carbon ring members and heteroatoms as ring members, and containing as heteroatoms one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom;

$R^2$ represents phenyl which is unsubstituted or substituted by two or three groups $R^a$;

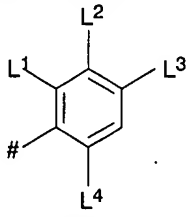
$R^3$ represents chlorine;

X represents $NR^5$, wherein $R^5$ represents hydrogen or $C_1$-$C_{10}$-alkyl or $C_1$-$C_{10}$-haloalkyl; or

$R^1$ and $R^5$ together with the interjacent nitrogen atom form a heterocyclic ring selected from the group consisting of pyrrolidine, piperidine, tetrahydropyridine and azepane, which ring is optionally substituted by one or more $C_1$-$C_{10}$-alkyl groups; and

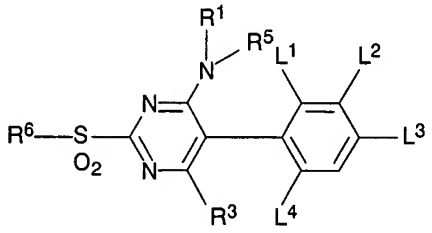
$R^6$ represents $C_1$-$C_6$-alkyl or $C_1$-$C_6$-haloalkyl.

11. (*new*) The compound of formula VI or VIII defined in claim 8, in which $R^2$ represents a phenyl group of formula



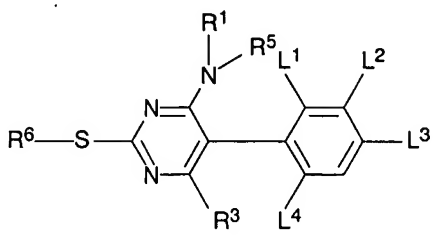

wherein $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

12. (*new*) The compound of formula VI defined in claim 8 which is represented by formula




in which $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

13. (*new*) The compound of formula VIII defined in claim 8 which is represented by formula

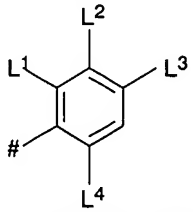


in which $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

14. (*new*) The compound of formula VI or VIII defined in claim 8 in which $R^3$ represents chlorine.

15. (*new*) The compound of formula VI or VIII defined in claim 8 in which $R^4$ represents $C_1$-$C_6$-alkyl or benzyl.

16. (*new*) The process of claim 7, in which $R^2$ of formulae I, VI and VIII represents a phenyl group of formula



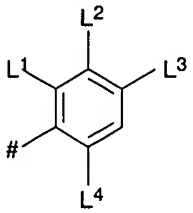
wherein $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

17. (*new*) The process of claim 7, in which X of formulae I, VI and VIII represents $NR^5$.

18. (*new*) The process of claim 7, in which $R^3$ of formulae I, VI and VIII represents chlorine.

19. (*new*) The process of claim 7, in which $R^4$ of formulae I and VII represents $C_1$-$C_6$-alkyl or benzyl.

20. (*new*) The process of claim 6, in which $R^2$ of formulae I and II represents a phenyl group of formula



wherein $L^1$ through $L^4$ each independently represent hydrogen, fluorine, chlorine or methoxy.

21. (*new*) The process of claim 6, in which X of formulae I and II represents $NR^5$.

22. (*new*) The process of claim 6, in which $R^3$ of formulae I and II represents chlorine.

23. (*new*) The process of claim 6, in which $R^4$ of formulae I and III represents $C_1$-$C_6$-alkyl or benzyl.